

1. A method for producing a cell that expresses a neural cell phenotype, the method comprising the steps of:

- (a) providing an hepatic oval cell; and
- (b) placing the hepatic oval cell under conditions that promote the differentiation of the hepatic oval cell into a cell that expresses a neural cell phenotype.

2. The method of claim 1, wherein the neural cell phenotype comprises expression of marker selected from the group consisting of: NFM, nestin, MAP2, β III tubulin, α -internexin, GFAP, S100, and CD11b.

3. The method of claim 1, wherein step (b) comprises contacting the hepatic oval cell with an agent increases cAMP concentration in the hepatic oval cell.

4. The method of claim 3, wherein the agent is an analogue of cAMP.

5. The analogue of claim 4, wherein the analogue is dibutyryl cAMP.

6. The method of claim 3, wherein the agent is an inhibitor of cAMP phosphodiesterase.

7. The method of claim 6, wherein the agent is 3-isobutyl-1-methylxanthine.

8. The method of claim 1, wherein step (b) comprises culturing the hepatic oval cell with a neurosphere.

9. The method of claim 1, wherein step (b) comprises transplanting the hepatic oval into a central nervous system tissue in an animal.

10. The method of claim 9, wherein the central nervous system tissue is a brain.

11. A cell that expresses a neural cell phenotype, the cell being made according to the method of claim 1.

12. The cell of claim 11, wherein the cell expresses are marker selected from the group consisting of: NFM, nestin, MAP2, β III tubulin, α -internexin, GFAP, S100, and CD11b.

13. The cell of claim 11, wherein the marker is NFM.

14. The cell of claim 11, wherein the marker is nestin.

15. The cell of claim 11, wherein the marker is MAP2.

16. The cell of claim 11, wherein the marker is β III tubulin.

17. The cell of claim 11, wherein the marker is α -internexin.

18. The cell of claim 11, wherein the marker is GFAP.

19. The cell of claim 11, wherein the marker is S100.

20. The cell of claim 11, wherein the marker is CD11b.

21. A method of introducing a cell into a host animal subject, the method comprising the steps of:

(a) providing the animal subject; and

(b) introducing into the subject a cell made according to the method of claim 1.